

REMARKS

Claims 1-10 and 15-16 are pending in this application, claim 14 having been currently cancelled.
Claims 1 and 5 have been amended.

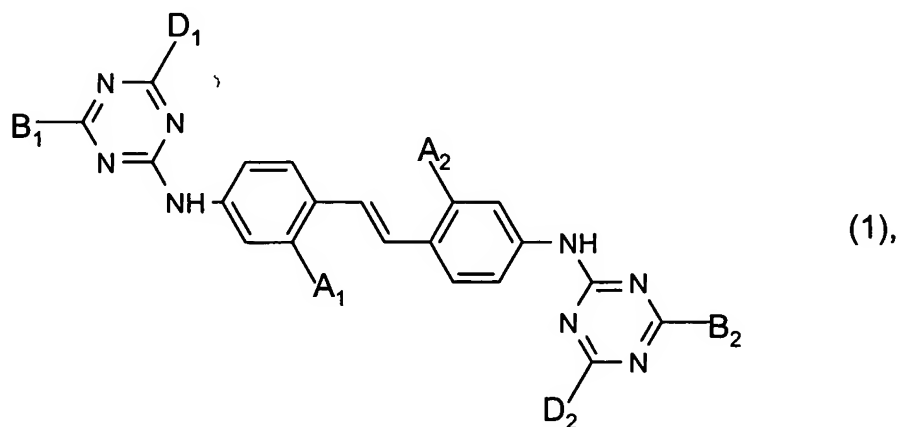
Claims 1-10 and 15-16 are presented for reconsideration.

Applicants have amended their claims in order to more particularly point out and distinctly claim a preferred aspect of their invention. Thus, "-NH₂" has been cancelled from the definitions of D₁ and D₂ in claims 1 and 5. Additionally "especially chlorine," has been cancelled from the definitions of D₁ and D₂ in claim 5. No new matter has been added.

Claims 1-3, 8-10 and 14-16 are rejected under 35 U.S.C. § 102(b) as being anticipated by Lebkücher et al., U.S. Patent No. 3,663,538. The examiner notes cols. 12-20 and Table 1. Applicants respectfully traverse this rejection for the reasons that follow.

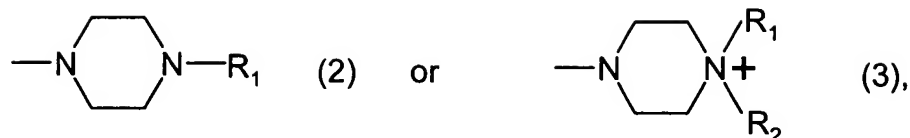
Claim 1 of the instant application reads as follows:

A compound of the formula



wherein

A₁ and A₂ each, independently of one another, represent -SO₃⁻ or -SO₃M, where M represents hydrogen, an alkaline or alkaline earth metal, ammonium or alkylammonium, B₁ and B₂ each, independently of one another, represent the moiety

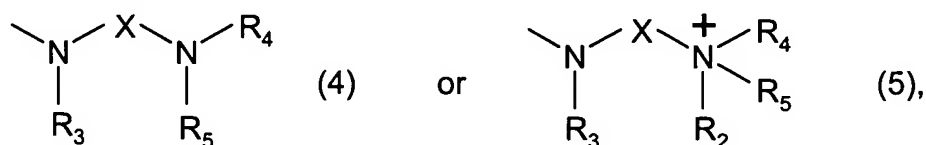


in which

R₁ represents hydrogen, a straight-chain C₁-C₁₂alkyl or branched C₃-C₁₂alkyl group which C₂-C₁₂alkyl and C₃-C₁₂alkyl group, respectively, may be interrupted by one or two heteroatoms and is unsubstituted or substituted by one or two -OH, -OC₁-C₄alkyl, -NH₂, -NHC₁-C₄alkyl, -N(C₁-C₄alkyl)₂, -N-pyrrolidino, -N-piperidino, -N-morpholino or -N⁺(C₁-C₄alkyl)₃ groups and

R₂ represents C₁-C₄alkyl, C₂-C₄hydroxyalkyl, -CH₂CONH₂, -CH₂COOH or -CH₂COO C₁-C₄alkyl or, alternatively,

B₁ and B₂ each, independently of one another, represent a group of the formula



in which

R₃, R₄ and R₅ each, independently of each other, represent hydrogen, C₁-C₄alkyl, C₂-C₄hydroxyalkyl, the group -X'-NR₆R₇ or the group -X'-N⁺R₃R₆R₇, whereby at least one of the substituents R₄ and/or R₅ represents -X'-NR₆R₇ or -X'-N⁺R₃R₆R₇,

X and X' each, independently of each other, represent a straight-chain C₂-C₈alkylene or branched C₃-C₈alkylene chain, which is unsubstituted or substituted by one or two -OH or -C(=O)- groups,

R₆ and R₇ each, independently of each other, represent hydrogen, C₁-C₄alkyl or, together with the nitrogen atom to which they are bound, complete a pyrrolidino, piperidino or morpholino ring and R₂ is as previously defined and each

D₁ and D₂, independently of one another, are either defined as for B₁ and B₂ or represent halogen, C₁-C₄monoalkyl- or dialkylamino, said alkyl groups being unsubstituted or substituted by C₁-C₄alkoxy, amino, mono- or di-C₁-C₄alkylamino or tri-C₁-C₄alkylammonium;

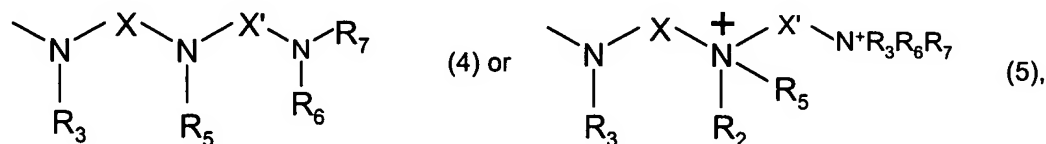
C₂-C₄hydroxyalkylamino, C₂-C₄di(hydroxyalkyl)amino, anilino, an aniline monosulphonic acid or sulphonamide residue or a 5- or 6-membered, saturated heterocyclic ring or, alternatively, mixtures of compounds of formula (1).

Essentially, this claim encompasses 2 groups of amphoteric or cationic compounds;

- a) compounds of formula (1), in which the groups B₁ and B₂ represent a piperazino residue of formula (2) or a quaternized piperazinium salt of formula (3) and

- b) compounds of formula (1) in which the groups B_1 and B_2 represent a residue of formula (4) or (5), in which at least one of the substituents R_4 and R_5 represents $-X'-NR_6R_7$ or $-X'-N^+R_3R_6R_7$.

To more clearly illustrate this latter definition, the formulae of B_1 and/ or B_2 may thus be rewritten in the form



The examiner maintains that claims 1-3, 8-10 and 14-16 are anticipated by US Patent No. 3,663,538. Said patent claims, in claim 1, compounds similar to those of formula (1) above, in which B_1 represents a residue of formula



and B_2 represents a residue of the formula



wherein A and A' represent a C_2 - C_5 alkylene residue, R_1 and R_2 may be the same or different and represent hydrogen or lower alkyl, R_3 , R_4 , R_5 , and R_6 represent lower alkyl, benzyl, phenyl or cycloalkyl of 5 to 8 carbon atoms, or R_3 and R_4 and/or R_5 and R_6 together with the nitrogen atom are a six-membered saturated heterocyclic ring and R_7 and R_8 are hydrogen, lower alkyl or benzyl.

Claim 2 further defines the saturated heterocyclic ring as morpholino or piperidino.

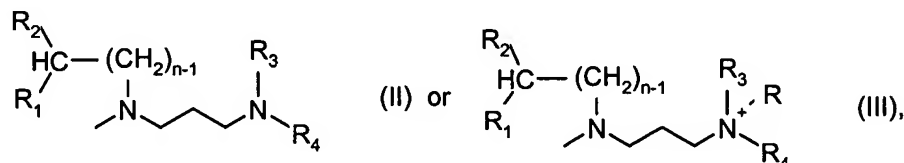
Despite the fact that piperazine falls within the generic scope claim 1 of this patent, no examples of such compounds are either given or suggested. In particular there are no piperazines in the listing of possible diamine starting materials in cols. 3-4.

Furthermore, the definitions given for the substituents R_4 to R_8 of this patent do not fall within the scope of claim 1 of the instant invention, since none of these substituents carry a nitrogen-containing group, as defined in formulae (4) and (5) above.

Consequently, none of the present claims is anticipated by this reference.

Claims 1-3, 8-10 and 14-16 are rejected under 35 U.S.C. § 102(b) as being anticipated by Balzer et al., U.S. Patent No. 3,757,010. Applicants respectfully traverse this rejection for the reasons that follow.

US Patent No. 3,757,010 claims stilbene derivatives similar to those of the present invention in which the essential feature, corresponding to groups B₁ and B₂ of the instant invention, is a group of the formula



wherein R represents hydrogen or a lower alkyl radical, optionally substituted by hydroxy, alkoxy, cyano, aminocarbonyl, phenyl, phenoxy or cresoxy radicals, R₁ is hydrogen or lower alkyl, R₂ is hydroxyl, a cyano, -CO-C_mH_{2m+1}, -CONR₅R₆ or a -COOR₇ radical and R₃ and R₄ independently represents a lower alkyl or hydroxyalkyl radical or R₃ and R₄ together with the nitrogen atom represent piperidino, morpholino, pyrrolidino or hexamethylene imino.

Thus, neither piperazino residues nor residues corresponding to instant formulae (4) or (5) above fall within the scope of the claims of this document.

Consequently, none of the present claims is anticipated by this reference.

Claims 1-3, 8-10 and 14-16 are rejected under 35 U.S.C. § 102(b) as being anticipated by Schüssler et al., CA 2,020,666 (= DE 3,922,424). Applicants respectfully traverse this rejection for the reasons that follow.

The CA document claims triazinylaminostilbene sulphonic acid derivatives corresponding to formula (1) of the instant invention, in which the essential features are aniline residues (optionally also monosulphonic acids) and residues corresponding to the groups B₁ and B₂ of the instant invention, of the formula -NXY, in which

X is hydrogen, C₁-C₄alkyl, -CH₂CH₂-Z or Y,

Y is -A-NVW,

X and Y may together form the residue -CH₂CH₂-NR-CH₂CH₂ (i.e. a piperazine),

A is C₂-C₆alkylene or C₂-C₆alkylene-O-C₂-C₆alkylene,

V and W are C₁-C₄alkyl, optionally substituted by -OH or -N(R)₂,
V and W may together form the residue -CH₂CH₂-T-CH₂CH₂-, in which
T is O, S, NR or CH₂ and R is C₁-C₄ alkyl.

Despite the fact that piperazine derivatives fall within the generic scope of the above claim, no examples of such are provided and no derivatives corresponding to those containing groups of formulae (4) and (5) of the instant invention are encompassed. Hence Schüssler et al. does not anticipate the instant claims.

Applicants note that the proper test for anticipation is whether the instant claims read on the actual compounds and/or methods shown in the reference, not whether there is overlap between a generic scope and the claimed invention. Thus the present claims are not anticipated by this reference.

Claims 1-3, 8-10 and 14-16 are rejected under 35 U.S.C. § 102(b) as being anticipated by Eckhardt et al., U.S. Patent No. 5,945,496. Reconsideration is requested in light of the amendment *supra* and the following remarks.

Compounds in which B₁ and B₂ are of instant formulae (4) and (5) do not fall within the scope of claim 1 of the Eckhardt patent. But piperazine derivatives, both quaternized and unquaternized, do fall within the scope of the claims of this patent. However, the only piperidino derivative actually disclosed is the compound of Formula (101). In said compound the groups corresponding to D₁ and D₂ in the claims are -NH₂. Since D₁ and/or D₂ cannot represent -NH₂, the compound of Formula (101) is outside the scope of the instant claims. Hence Eckhardt et al. does not anticipate the instant invention.

Claims 1-3, 8-10 and 14-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lebkücher et al., U.S. Patent No. 3,663,538. The examiner asserts that the reference teaches equivalency of those compounds exemplified in the examples with those generically claimed; hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to make compounds as permitted by the reference and expect the resulting compounds (instant compounds) to possess the uses taught by the art.

However, as noted *supra*, the definitions given for the substituents R₄ to R₈ of this patent do not fall within the scope of claim 1 of the instant invention, since none of these substituents carry a nitrogen-

containing group, as defined in instant formulae (4) and (5). Hence U.S. Patent No. 3,663,538 does not render obvious the claimed invention.

Claims 1-3, 8-10 and 14-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Balzer et al., U.S. Patent No. 3,757,010. The examiner makes the same assertion as above. However, since neither piperazine derivatives nor residues corresponding to formulae (4) or (5) in claimed B₁ and B₂ are within the generic scope of the disclosure of this document, Balzer et al., U.S. Patent No. 3,757,010, does not render obvious the claimed invention.

Claims 1-3, 8-10 and 14-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Schüssler et al., CA 2,020,666. The examiner makes the same assertion as above. However, although piperazine derivatives corresponding to claimed B₁ and B₂ are within the generic scope of Schüssler et al., the reference has no relevant compounds, i.e. no compounds which are isomers or homologues of any claimed compound. It is well established that hindsight selection from a broad shotgun type disclosure would not guide one skilled in the art to choose Applicant's restricted class of compounds from among the host of possible combinations so as to make said class obvious within the meaning of 35 U.S.C. § 103. See *Ex parte Strobel et al.*, 160 USPQ 352 (PTO Bd. of App., 1968), cited with approval numerous times by the CCPA and the CAFC. Therefore CA 2,020,666 does not render obvious the claimed invention.

Claims 1-3, 8-10 and 14-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Eckhardt et al., U.S. Patent No. 5,945,496. The examiner makes the same assertion as above. Applicants respectfully traverse this rejection for the reasons that follow.

Applicants respectfully note that the aim of the disclosure of Eckhardt was to provide protection against UV radiation for human skin lying beneath articles of clothing that had been washed and then treated with a rinse cycle fabric softener composition comprising the UV absorbers described therein. See col. 1, lines 55-60 and col. 2, lines 16-22. Thus the object was to improve the sun protection factor of the treated fabrics by improving their ability to quench UV radiation.

The object of the instant invention, however, is to provide compounds suitable for the fluorescent whitening of paper, especially in the presence of cationic polymers (see page 1 of the description).

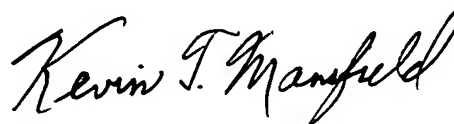
Applicants aver that the disclosure of Eckhardt would have provided no motivation for the art skilled to prepare the particular compounds of the instant invention and no reason for the art skilled to utilize such compounds for the fluorescent whitening of paper as claimed.

Reconsideration and withdrawal of all grounds of rejection of claims 1-10 and 15-16 is respectfully solicited in light of the remarks *supra*.

Since there are no other grounds of objection or rejection, passage of this application to issue with said claims is earnestly solicited.

Applicants submit that the present application is in condition for allowance. In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

Respectfully submitted,

A handwritten signature in black ink, reading "Kevin T. Mansfield". The signature is written in a cursive, flowing style with a large, prominent "K" and "M".

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